No.



200100020

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Pioneer Hi-Bred International, Inc.

MICCORS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE)

ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S)

AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE

DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE

BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS

FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT,

AR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE; OR USING IT IN

QUEING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY

CTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'PH26N'

In Jestimonn Thereof, I have hereunto set my hand and caused the seal of the Plant Bariety Arotection Office to be affixed at the City of Washington, D.C. this tenth day of Warch, in the year two thousand three.

Cal M. Jouhand

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

En Grenon

S&T-470 (06-98DESIGNED BY THE Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete. (See reverse for instructions and information collection burden

DATE

Steven R. Anderson

Senior Research

10/26/2000

CAPACITY OR TITLE

Associate

statement)

CAPACITY OR TITLE

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety protection Office (PVPO), ALL of the following items must be received in the PVPO: Application form signed by the owner: (2) completed Evhibits A P.C.F. (3) (5) application form signed by the owner; (2) completed Exhibits A,B,C,E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety sy Irsdy 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in a approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filling fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

> Plant Variety Protection Office Telephone: (301)504-5518 FAX: (301)504-5291

Homepage: http://www.ams.usda.gov/science/pvp.htm

ITEM

- 18a. Give: the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - evidence of uniformity and stability; and
 - the type and frequency of variants during reproduction and multiplication and state how these variants may be identified.
- Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other 18b. varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
 - identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - submit, if helpful, seed and plant specimens of photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely 18c. as possible to describe your variety.
- Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use 18d. comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant disease resistance, etc.
- 18e. Section 52(5) of the Act required applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant may NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, applicant may change the choice. (See Regulations and Rules of Practice, Section 7.103).
- See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements. 22.
- 23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.
- 22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

11/01/1997 Brazil; 11/01/1997, Bolivia; 11/01/1998, Argentina; 11/01/1999, United States

CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of 23. the variety is protected by intellectual property right (Plant Breeder's Right or Patent).

NOTES; It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate of any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing Instruction, searching existing data sources, gathering and

Exhibit A: Origin and Breeding History

Pedigree: PHP51/PHRB4)XA2112131

Pioneer Line PH26N, Zea mays L., a dent corn inbred, was developed by Pioneer Hi-Bred International, Inc. from the single cross hybrid PHP51 X PHRB4 using the pedigree method of plant breeding. Varieties PHP51 and PHRB4 are proprietary inbred lines of Pioneer Hi-Bred International, Inc. Selfing and selection were practiced within from the above hybrid for 9 generations using pedigree selection. During line development, crosses were made to inbred testers for the purpose of estimating the line's combining ability. Yield trials were grown at Itumbiara as well as other Pioneer research locations. After initial testing, additional hybrid combinations have been evaluated and subsequent generations of the line have been grown and hand-pollinated with observations again made for uniformity.

PHP51

Variety PHP51 was derived by pedigree selection from a local commercial variety, called Contibrasil 805.

PHRB4

Variety PHRB4 was derived by pedigree selection. The pedigree percent contribution in the derivation of PHRB4 is 50% LA MAQUINA 7422, 37.5% TDWNYMILD, and 12.5% IL LO EAR. *2

Variety PH26N has shown uniformity and stability for all traits as described in Exhibit C - "Objective Description of Variety". It has been self-pollinated and ear-rowed 9 generations with careful attention paid to selection criteria and uniformity of plant type to assure genetic homozygousity and phenotypic stability. The line has been increased both by hand and in isolated fields with continued observations for uniformity and stability for a minimum of 4 generations during the final stages of inbred development and seed multiplication. Very high standards for genetic purity have been established morphologically using field observations and electrophoretically using sound lab molecular marker methodology.

No variant traits have been observed or are expected in PH26N.

The criteria used in the selection of PH26N were yield, both per se and in hybrid combinations; late season plant health, grain quality, stalk lodging resistance, and kernel size, especially important in production. Other selection criteria include: ability to germinate in adverse conditions; number of tillers, especially important in production because having numerous tillers increases hybrid production costs spent on detasseling; disease and insect resistance; pollen yield and tassel size.

- ¥1. For the derivation of PHP51, Contibrasil was the name of the company Continental Seed in Brazil. The variety Contibrasil 805 was a commercial hybrid from Continental Seed available in Brazil at the time.
- *2. For the background of PHRB4: Variety PHRB4 was coded in the 1980's. Variety PHRB4 was derived from a downy mildew resistant population in Thailand known as Suwan1 by Farm Suwan.- and a population La Maquina 7422, from the International Maize and Wheat Improvement Center (CIMMYT).

Exhibit A: Developmental history for PH26N

200100020

Season/Year Pedigree Grown	Inbreeding Level of Pedigree Grown
MAR 1990	F0
PHP51, PHRB4	
SEP 1991	F1
PHP51/ PHRB4	
NOV 1992	F2
PHP51/PHRB4)X	
MAR 1993	F3
PHP51/PHRB4)XA2	
OCT 1993	F4
PHP51/PHRB4)XA21	
MAR 1994	F5
PHP51/PHRB4)XA211	
OCT 1994	F6
PHP51/PHRB4)XA2112	
FEB 1995	F7
PHP51/ PHRB4)XA21121	
SEP 1995	F8
PHP51/ PHRB4)XA211213	
SEP 1996	F9
PHP51/ PHRB4)XA2112131	

^{*}PH26N was selfed and ear-rowed from F1 through F9 generation.
#Uniformity and stability were established from F5 through F9 generation and beyond when seed supplies were increased.

Exhibit B: Novelty Statement

PH26N is most similar to the Pioneer Hi-Bred International, Inc. proprietary inbred line PHK46 (PVP Certificate No. 9000246). The data in Table 1 are from paired comparisons collected primarily in Johnston, Ankeny, IA and Cairo, Georgia. The traits collectively show measurable differences between the two varieties.

Variety PH26N has narrower ear diameter (26.4, 22.0, 31.4, 30.0 mm vs 40.8, 40.2, 44.4, 43.8 mm) than PHK46 (Table 1).

Variety PH26N has less kernel ear ows (11.6, 12.8 rows vs 16.8, 16.0 rows) than PHK46 (Table 1).

Variety PH26N has a greater leaf angle (23.0, 20.2, 26.6, 32.0 degrees vs 12.2, 11.4, 12.0, 11.0 degrees) than PHK46 (Table 1).

Variety PH26N has longer ear shank length (14.2, 11.0, 12.0, 12.8 cm vs 8.6, 8.6, 7.2, 9.4 cm) than PHK46 (Table 1).

Exhibit B: Novelty Statement Tables

Table 1: Data from Johnston and Ankeny, IA and Cairo, Georgia at 4 different environments in 2000 are supporting evidence for differences between PH26N and PHK46. Locations had different environmental conditions. Environments had different planting dates and were in different fields.

Prob_(2- tail)_ Pooled	0.000	0.000	0.000	0.000	0.001	0.014	0.004	0.001	000'0	0.000	0.000	0.012	0.002	0.072
FValueP	-7.59	-7.06	-8.53	-6.70	-4.75	-3.14	3.96	5.26	14.18	9.39	6.26	3.21	4.71	2.07
DF Poole d	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Std Deviation- I 2	0.837	1.643	1.817	1.095	1.789	1.414		1.140		2.236	1.342	1.140	1.095	2.408
Std Deviation [-1	4.159	5.523	2.881	4.472	1.673	1.789	5.916	3.564	2.074	4.472	1.483	1.225	2.000	2.775
	-14.4	-18.2	-13.0	-13.8	-5.2	-3.2	10.8	8.8	14.6	21.0	5.6	2.4	4.8	3.4
Wean-2 I	40.8	40.2	44.4	43.8	16.8	16.0	12.2	11.4	12.0	11.0	8.6	9.8	7.2	9.4
/lean-1	26.4	22.0	31.4	30.0	11.6	12.8	23.0	20.2	26.6	32.0	14.2	11.0	12.0	12.8
Sount- N 2	5	ည	5	5	5	5	2	5	5	သ	5	ಬ	5	5
riety- Count- Count- Mean-1 Mean-2 Mean 2 1 2 Diff	5	5	5	ည	2	5	5	5	5	2	5	5	5	5
variety- 2	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46	PHK46
variety- 1	PH26N PH	PH26N	PH26N PH	PH26N PH	PH26N PH	PH26N PH	PH26N	PH26N	PH26N PH	PH26N PH	PH26N PH	PH26N PH	PH26N PH	PH26N PH
Leb	_	-	-	2	_	2	_	_	-	_	_	- -	-	2
year station rep variety. va	2000 AD	2000 JH	2000 TF	2000 TF	2000 TF	2000 TF	2000 AD	2000 IT	2000 JH	2000 TF	2000 AD	2000 JH	2000 TF	2000 TF
Ilait Markanan Markan Markanan Markanan Markanan Markanan Markanan Markanan Markanan Markanan Markan Ma Markan Markan Ma Markan Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma	ear diameter (mm)	ear diameter (mm)	ear diameter (mm)	ear diameter (mm)	ear row number	ear row number	eaf angle (degrees)	eaf angle (degrees)	eaf angle (degrees)	eaf angle (degrees)	shank length (cm)	shank length (cm)	shank length (cm)	shank length (cm)

DEFINITIONS

In the description and examples, a number of terms are used herein. In order to provide a clear and consistent understanding of the specification and claims, including the scope to be given such terms, the following definitions are provided:

ANT ROT = **ANTHRACNOSE STALK ROT** (Colletotrichum graminicola).

A 1 to 9 visual rating indicating the resistance to Anthracnose Stalk Rot. À higher score indicates a higher resistance.

BAR PLT = BARREN PLANTS.

The percent of plants per plot that were not barren (lack ears).

BRT STK = BRITTLE STALKS.

This is a measure of the stalk breakage near the time of pollination, and is an indication of whether a hybrid or inbred would snap or break near the time of flowering under severe winds. Data are presented as percentage of plants that did not snap.

BU ACR = YIELD (BUSHELS/ACRE).

Yield of the grain at harvest in bushels per acre adjusted to 15.5% moisture

CLD TST = COLD TEST.

The percent of plants that germinate under cold test conditions.

CLN = CORN LETHAL NECROSIS.

Synergistic interaction of maize chlorotic mottle virus (MCMV) in combination with either maize dwarf mosaic virus (MDMV-A or MDMV-B) or wheat streak mosaic virus (WSMV). A 1 to 9 visual rating indicating the resistance to Corn Lethal Necrosis. A higher score indicates a higher resistance.

COM RST = **COMMON RUST** (*Puccinia sorghi*).

A 1 to 9 visual rating indicating the resistance to Common Rust. A higher score indicates a higher resistance.

DIP ERS = **DIPLODIA EAR MOLD SCORES** (Diplodia maydis and Diplodia macrospora).

A 1 to 9 visual rating indicating the resistance to Diplodia Ear Mold. A higher score indicates a higher resistance.

DRP EAR = DROPPED EARS.

A measure of the number of dropped ears per plot and represents the percentage of plants that did not drop ears prior to harvest.

EAR HT = EAR HEIGHT.

The ear height is a measure from the ground to the highest placed developed ear node attachment and is measured in cm.

EAR MLD = GENERAL EAR MOLD.

Visual rating (1-9 score) where a "1" is very susceptible and a "9" is very resistant. This is based on overall rating for ear mold of mature ears without determining the specific mold organism, and may not be predictive for a specific ear mold.

EAR SZ = EAR SIZE.

A 1 to 9 visual rating of ear size. The higher the rating the larger the ear size.

ECB 1LF = EUROPEAN CORN BORER FIRST GENERATION LEAF FEEDING (Ostrinia nubilalis).

À 1 to 9 visual rating indicating the resistance to preflowering leaf feeding by first generation European Corn Borer. A higher score indicates a higher resistance.

ECB 2IT = **EUROPEAN CORN BORER SECOND GENERATION INCHES OF TUNNELING** (Ostrinia nubilalis).

Average inches of tunneling per plant in the stalk.

ECB 2SC = **EUROPEAN CORN BORER SECOND GENERATION** (Ostrinia nubilalis).

A 1 to 9 visual rating indicating post flowering degree of stalk breakage and other evidence of feeding by European Corn Borer, Second Generation. A higher score indicates a higher resistance.

ECB DPE = EUROPEAN CORN BORER DROPPED EARS (Ostrinia nubilalis).

Dropped ears due to European Corn Borer. Percentage of plants that did not

drop ears under second generation corn borer infestation.

EGRWTH = EARLY GROWTH.

This is the visual rating (1 to 9) of the amount of vegetative growth after emergence at the seedling stage (approximately five leaves). A higher score indicates better vigor or early season growth.

EST CNT = EARLY STAND COUNT.

This is a measure of the stand establishment in the spring and represents the number of plants that emerge on per plot basis for the inbred or hybrid.

EYE SPT = EYE SPOT (Kabatiella zeae or Aureobasidium zeae).

A 1 to 9 visual rating indicating the resistance to Eye Spot. A higher score indicates a higher resistance.

FUS ERS = **FUSARIUM EAR ROT SCORE.** (Fusarium moniliforme or Fusarium subglutinans).

A 1 to 9 visual rating indicating the resistance to Fusarium ear rot. A higher score indicates a higher resistance.

GDU = **GROWING DEGREE UNITS.**

Using the Barger Heat Unit Theory, which assumes that maize growth occurs in the temperature range 50°F - 86°F and that temperatures outside this range slow down growth; the maximum daily heat unit accumulation is 36 and the minimum daily heat unit accumulation is 0. The seasonal accumulation of GDU is a major factor in determining maturity zones.

GDU SHD = GDU TO SHED.

The number of growing degree units (GDUs) or heat units required for an inbred line or hybrid to have approximately 50 percent of the plants shedding pollen and is measured from the time of planting. Growing degree units are calculated by the Barger Method, where the heat units for a 24-hour period are:

GDU = (Max. Temp. + Min. temp.) - 50/2

The highest maximum temperature used is 86° F. and the lowest minimum temperature used is 50°F. For each inbred or hybrid it takes a certain number of GDUs to reach various stages of plant development.

GDU SLK = GDU TO SILK.

The number of growing degree units required for an inbred line or hybrid to have approximately 50 percent of the plants with silk emergence from time of planting. Growing degree units are calculated by the Barger Method as given in GDU SHD definition.

GIBERS = GIBBERELLA EAR ROT (PINK MOLD) (Gibberella zeae).

A 1 to 9 visual rating indicating the resistance to Gibberella Ear Rot. A higher score indicates a higher resistance.

GLF SPT = **GRAY LEAF SPOT** (*Cercospora zeae-maydis*).

A 1 to 9 visual rating indicating the resistance to Gray Leaf Spot. A higher score indicates a higher resistance.

GOS WLT = GOSS' WILT (Corynebacterium nebraskense).

A 1 to 9 visual rating indicating the resistance to Goss' Wilt. A higher score indicates a higher resistance.

GRN APP = **GRAIN APPEARANCE.**

This is a 1 to 9 rating for the general appearance of the shelled grain as it is harvested based on such factors as the color of harvested grain, any mold on the grain, and any cracked grain. High scores indicate good grain quality.

HC BLT = HELMINTHOSPORIUM CARBONUM LEAF BLIGHT (Helminthosporium carbonum).

A 1 to 9 visual rating indicating the resistance to Helminthosporium infection. A higher score indicates a higher resistance.

HD SMT = **HEAD SMUT** (Sphacelotheca reiliana).

This score indicates the percentage of plants not infected.

KER KG = **KERNELS PER KILOGRAM.**

The number of kernels per 1 kilogram of seed after discard is removed.

KSZ DCD = KERNEL SIZE DISCARD.

The percent of discard seed; calculated as the sum of discarded tip kernels and extra large kernels.

MDM CPX = MAIZE DWARF MOSAIC COMPLEX (MDMV = Maize Dwarf Mosaic Virus and MCDV = Maize Chlorotic Dwarf Virus).

A 1 to 9 visual rating indicating the resistance to Maize Dwarf Mosaic Complex. A higher score indicates a higher resistance.

MST = HARVEST MOISTURE.

The moisture is the actual percentage moisture of the grain at harvest.

NLF BLT = NORTHERN LEAF BLIGHT (Helminthosporium turcicum or Exserohilum turcicum).

A 1 to 9 visual rating indicating the resistance to Northern Leaf Blight. A higher score indicates a higher resistance.

PLT HT = PLANT HEIGHT.

This is a measure of the height of the plant from the ground to the tip of the tassel in cm.

POL SC = **POLLEN SCORE.**

A 1 to 9 visual rating indicating the amount of pollen shed. The higher the score the more pollen shed.

POL WT = POLLEN WEIGHT.

This is calculated by dry weight of tassels collected as shedding commences minus dry weight from similar tassels harvested after shedding is complete.

PRM = PREDICTED RELATIVE MATURITY.

This trait, predicted relative maturity, is based on the harvest moisture of the grain. The relative maturity rating is based on a known set of checks and utilizes standard linear regression analyses and is also referred to as the Comparative Relative Maturity Rating System that is similar to the Minnesota Relative Maturity Rating System.

PRM SHD = PREDICTED RELATIVE MATURITY GDU TO SHED.

A relative measure of the growing degree units (GDU) required to reach 50% pollen shed. Relative values are predicted values from the linear regression of observed GDU's on relative maturity of commercial checks.

RT LDG = ROOT LODGING.

Root lodging is the percentage of plants that do not root lodge; plants that lean from the vertical axis at an approximately 30° angle or greater would be counted as root lodged.

SCT GRN = **SCATTER GRAIN.**

A 1 to 9 visual rating indicating the amount of scatter grain (lack of pollination or kernel abortion) on the ear. The higher the score the less scatter grain.

SEL IND = SELECTION INDEX.

The selection index gives a single measure of the hybrid's worth based on information for up to five traits. A maize breeder may utilize his or her own set of traits for the selection index. One of the traits that is almost always included is yield. When selection index data is presented, the tables represent the mean value averaged across testing stations.

SLF BLT = SOUTHERN LEAF BLIGHT (Helminthosporium maydis or Bipolaris maydis).

A 1 to 9 visual rating indicating the resistance to Southern Leaf Blight. A higher score indicates a higher resistance.

SOU RST = **SOUTHERN RUST** (*Puccinia polysora*).

A 1 to 9 visual rating indicating the resistance to Southern Rust. A higher score indicates a higher resistance.

STAGRN = STAYGREEN.

Staygreen is the measure of plant health near the time of black layer formation (physiological maturity). A high score indicates better late-season plant health.

STK CNT = NUMBER OF PLANTS.

This is the final stand or number of plants per plot.

STK LDG. = STALK LODGING.

This is the percentage of plants that did not stalk lodge (stalk breakage) as measured by either natural lodging or pushing the stalks and determining the percentage of plants that break below the ear.

STW WLT = STEWART'S WILT (Erwinia stewartii).

A 1 to 9 visual rating indicating the resistance to Stewart's Wilt. A higher score indicates a higher resistance.

TASBRN = TASSEL BRANCHES.

This is the number of primary tassel branches.

TAS SZ = TASSEL SIZE.

A 1 to 9 visual rating was used to indicate the relative size of the tassel. The higher the rating the larger the tassel.

TAS WT = TASSEL WEIGHT.

This is the average weight of a tassel (grams) just prior to pollen shed.

TEX EAR = EAR TEXTURE.

A 1 to 9 visual rating was used to indicate the relative hardness (smoothness of crown) of mature grain. A 1 would be very soft (extreme dent) while a 9 would be very hard (flinty or very smooth crown).

TILLER = TILLERS.

A count of the number of tillers per plot that could possibly shed pollen was taken. Data are given as a percentage of tillers: number of tillers per plot divided by number of plants per plot.

TST WT = TEST WEIGHT (UNADJUSTED).

The measure of the weight of the grain in pounds for a given volume (bushel).

YLD SC = YIELD SCORE.

A 1 to 9 visual rating was used to give a relative rating for yield based on plot ear piles. The higher the rating the greater visual yield appearance.

United States Department of Agriculture, Agricultural Marketing Service Science Division, Plant Variety Protection Office National Agricultural Library Building, Room 500 Beitsville, MD 20705

Objective Description of Variety Corn (Zea mays L.)

Name of Appl	icant (s)	Variety Seed Source	Varie	ety Name or Temporary Designation					
Pioneer H	-Bred International, Inc.			PH26N					
Address (Stree	et & No., or RFD No., City, State, Zip Code and	l Country	FOR OFFICIAL USE						
7301 NW	52 nd Avenue, P.O. Box 85,		_						
	Iowa 50131-0085		PVP0 Number						
Place the appropriate number that describes the varietal characters typical of this inbred variety in the spaces below. Right justify whole numbers by adding Leading zeroes if necessary. Completeness should be striven for to establish an adequate variety description. Traits designated by an '*' are considered Necessary for an adequate variety description and must be completed. COLOR CHOICES (Use in conjunction with Munsell color code to describe all color choices: describe #25 and #26 in Comments section):									
01=Light Gree	n 06=Pale Yellow	11=Pink	16=Pale Purple	21=Buff					
02=Medium C	reen 07=Yellow	12=Light Red	17=Purple	22=Tan					
03=Dark Gree	n 08=Yellow Orange	13=Cherry Red	18=Colorless	23=Brown					
04=Very Dark	Green 09=Salmon	14=Red	19=White	24=Bronze					
05=Green-Yel	low 10=Pink-Orange	15=Red & White	20=White Capped	25=Variegated (Describe) 26=Other (Describe)					
STANDARD	NBRED CHOICES			, , , , , , , , , , , , , , , , , , , ,					
(Use the most	similar (in background and maturity) of these t	o make comparisons based on	grow-out trial data):						
Yellow Dent F		Yellow Dent (Unrelated):		Corn:					
Family M	embers	Co109, ND246,	C13, I	owa5125, P39, 2132					
B14 C	M105, A632, B64, B68	Oh7, T232,	,	• •					
B37 B	37, B76, H84	W117, W153R,	Popcorr	1:					
B73 N	N192, A679, B73, NC268 W18BN		SG1533, 4722, HP301, HP7211						
C103 M	Io17, Va102, Va35, A682			•					
Oh43 A	619, MS71, H99, Va26	White Dent:	Pipecorn:						
WF9 W	764A, A554, A654, Pa91	C166, H105, Ky228		W, Mo16W, Mo24W					

VF9 W64A, A554, A654, Pa91 Groups on Lynx/Osborn/Grunst/98-99PVP

EXHIBIT C: PH26	6N				r				
1. TYPE: (describe in	Standard Variety Name								
<u>3</u> 1=Sweet 2	<u>B73</u>								
2. REGION WHERE	Standard Seed Source								
<u>5</u> 1=Northwest 2=Northcentral 3=Northeast 4=Southeast 5=Southcentral						PI 550473			
6=Southwes	t 7=Other				-				
3. MATURITY (In Re DAYS HEAT UN 093 1,873.0 090 1,798.5 005 0,127.5	gion of Best Adaptability; show Heat IITS From emergence to 50% of plants in From emergence to 50% of plants in From 10% to 90% pollen shed From 50% silk to optimum edible qu From 50% silk to harvest at 25% me	n silk n pollen ality	omments' se	ction)	074	EAT UNI 1,426.3 1,438.0 0,077.8	тѕ		
109.3 cm Ear H 012.8 cm Lengt 0.0 Average I 1.5 Average I	Height (to tassel tip) leight (to base of top ear node) h of Top Ear Internode Number of Tillers Number of Ears per Stalk nin of Brace Roots: 1=Absent 2=Fa	int 3=Moderate 4	Standard Deviation 14.27 23.47 00.99 00.00	Sample Size 04 04 04 04 01		tandard eviation 18.04 13.13 01.34 00.00	Sample Size 04 04 04 04 04 01		
5. LEAF:			Standard	Sample	ł	tandard	-		
95.6 cm Length 06 Number o 25 Degrees L	of Ear Node Leaf n of Ear Node Leaf of leaves above top ear .eaf Angle (measure from 2nd leaf ab s to stalk above leaf)	oove ear	Deviation 00.60 06.32 00.28 05.09	Size 04 04 04 04	09.1 83.8 06 13	eviation 00.57 06.17 00.44 01.42	Size 04 04 04 04		
3 Leaf Shea Marginal W	· (Munsell code) th Pubescence (Rate on scale from ' Vaves (Rate on scale from 1=none to al Creases (Rate on scale from 1=no	9=many)	each fuzz)		<u>03</u> <u>3</u>	<u>5GY</u>	<u> </u>		
46 Branch An 53.8 cm Tassel 6 Pollen She 07 Anther Co 17 Glume Co	f Primary Lateral Branches Igle from Central Spike Length (from top leaf collar to tassel ed (rate on scale from 0=male sterile lor (Munsell code) 10RF es (Glume Bands): 1=Absent 2=Pres	to 9=heavy shed) 86 228	Standard Deviation 00.63 09.51 01.52	Sample Size 04 04 04		tandard seviation 01.41 04.53 06.19 5Y8	Sample Size 04 04 04 554		
Application Variety Da	ata	Page 1			Standard	Variety [Data		

PH26N

^{*}The low ear weight is due to difficulty in obtaining good seed set. Rootworm beetles may have clipped silks in the Iowa locations and attributed to less than optimum seed set. Our environments for testing this very late maturing variety may have been less than ideal.

Standard Variety Data

PH26N **Application Variety Data** Page 3 Standard Variety Data 10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic): A. Leaf Blights, Wilts, and Local Infection Diseases Anthracnose Leaf Blight (Colletotrichum graminicola) Common Rust (Puccinia sorghi) 4 Common Smut (Ustilago maydis) Eyespot (Kabatiella zeae) Goss's Wilt (Clavibacter michiganense spp. nebraskense) Gray Leaf Spot (Cercospora <u>6</u> 2 Helminthosporium Leaf Spot (Bipolaris zeicola) Race Northern Leaf Blight (Exserohilum turcicum) Race Southern Leaf Blight (Bipolaris maydis) Race -3 Southern Rust (Puccinia polysora) Stewart's Wilt (Erwinia stewartii) Other (Specify) -B. Systemic Diseases Corn Lethal Necrosis (MCMV and MDMV) Head Smut (Sphacelotheca reiliana) Maize Chlorotic Dwarf Virus (MDV) Maize Chlorotic Mottle Virus (MCMV) Maize Dwarf Mosaic Virus (MDMV) Sorghum Downy Mildew of Corn (Peronosclerospora sorghi) Other (Specify) -C. Stalk Rots Anthracnose Stalk Rot (Colletotrichum graminicola) Diplodia Stalk Rot (Stenocarpella maydis) Fusarium Stalk Rot (Fusarium moniliforme) Gibberella Stalk Rot (Gibberella zeae) Other (Specify) -D. Ear and Kernel Rots Aspergillus Ear and Kernel Rot (Aspergillus flavus) Diplodia Ear Rot (Stenocarpella maydis) Fusarium Ear and Kernel Rot (Fusarium moniliforme) Gibberella Ear Rot (Gibberella zeae) Other (Specify) -

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Application Variety Data

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Standard Variety Data

11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); (leave blank if not tested): Banks grass Mite (Oligonychus pratensis) Corn Worm (Helicoverpa zea) Leaf Feeding Silk Feeding mg larval wt. Ear Damage Corn Leaf Aphid (Rhopalosiphum maidis) Corn Sap Beetle (Carpophilus dimidiatus zeae-maydis) European Corn Borer (Ostrinia nubilalis) 1st Generation (Typically Whorl Leaf Feeding) 2nd Generation (Typically Leaf Sheath-Collar Feeding) Stalk Tunneling cm tunneled/plant Fall Armyworm (Spodoptera fruqiperda) Leaf Feeding Silk Feeding mg larval wt. Maize Weevil (Sitophilus zeamaize Northern Rootworm (Diabrotica barberi) Southern Rootworm (Diabrotica undecimpunctata) Southwestern Corn Borer (Diatreaea grandiosella) Leaf Feeding Stalk Tunneling cm tunneled/plant Two-spotted Spider Mite (Tetranychus urticae) Western Rootworm (Diabrotica virgifrea virgifera) Other (Specify) 12. AGRONOMIC TRAITS: Staygreen (at 65 days after anthesis) (Rate 1 <u>7</u> on a scale from 1=worst to excellent) % Dropped Ears (at 65 days after anthesis) % Pre-anthesis Brittle Snapping % Pre-anthesis Root Lodging Post-anthesis Root Lodging (at 65 days after anthesis) Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture) 13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied): 0 RFLP's 0 RAPD's 1 Isozymes COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D): Application Variety Data Page 4 Standard Variety Data

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Application Variety Data

Please note the data presented in Exhibit B and C, "Objective Description of Variety," are collected primarily at Johnston, and Ankeny Iowa and Cairo, Georgia. These traits collectively show distinct differences between the two varieties.

The data for exhibit C was primarily collected from Johnston, and Ankeny, IA and Cairo, Georgia in 2000. Variety PH26N is a very long season variety more adapted to long season tropical environments typical in Brazil. These types of environments are uncommon in all but the extreme south parts of the United States. Our testing environments may not have been ideal for such late maturing varieties and likely contributed to the larger standard deviations you inquired about. There was some difficulty in getting good seed set at some of the locations.

The data for B73 was also collected in Johnston, and Ankeny, IA and Cairo, GA. The diverse environments likely contributed to larger standard deviations as well for the traits mentioned.

U.S. DEPARTMENT OF AGRICULTURE The following statements are made in accordance with the Privacy Act of AGRICULTURAL MARKETING SERVICE 1974 (5 U. S. C. 552a) and the Paperwork Reduction Act (PRA) of 1995. **EXHIBIT E** Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential STATEMENT OF THE BASIS OF OWNERSHIP until certificate is issued (7 U.S.C. 2426). 1. NAME OF APPLICANT(S) VARIETY NAME 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER PIONEER HI-BRED INTERNATIONAL, INC. PH26N .ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 5. TELEPHONE (include area code) FAX (include area code) 7301 NW 62nd AVENUE 515-253-2125 515-270-4051 **P.O.BOX 85** 7. PVPO NUMBER **JOHNSTON, IA 50131-0085** 8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain: 9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☑ YES □ NO If no, give name of country ☑ YES □ NO If no, please answer one of the following: 10. Is the applicant the original owner? If original rights to variety were owned by individual(s), is(are) the original owner(s) a U.S. national(s)? ☐ YES ☐ NO if no, give name of country b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company? ☑ YES ☐ NO If no, give name of country 11. Additional explanation on ownership (if needed, use reverse for extra space): PH26N is owned by Pioneer Hi-Bred International, Inc. PLEASE NOTE: Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria: If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country Which affords similar protection to nationals of the U.S. for the same genus and species. country, or owned by national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

- If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member
- If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to compete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching

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